EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone/Fax: (212)290-0051 / (212)290-0058
http://www.EMSL.com manhattanlab@emsl.com

EMSL Order #: **031806296**
Customer ID: **PNNJ42**
Customer PO: **Not Available**

Attn: **Ralph Coppola**
Pennoni
24 Commerce Street
Suite 300
Newark, NJ 07102

Phone: **973-265-9775**
Fax: **Not Available**

Project: **STLLX18001/ 220 FIFTH AVENUE/ NEW YORK/ BASEMENT - CEILING**

Date Collected: **03/20/2018**
Date Received: **03/30/2018**
Date Analyzed: **03/26/2018**

Report Date: 03/26/2018 *Revision:* R0

Asbestos Analysis of NYS ELAP Method 198.8
PLM Analysis for Asbestos in Bulk Surfacing Materials Containing Vermiculite

Lab Number	*Client Sample Identification*	Appearance	Percentage Matrix Material	Percentage non-Asbestos Fibers	Chrysotile Percentage	Amphibole Percentage	Total Percentage
031806296-0001	01-A	Tan Fibrous Homogeneous	100	0.0	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
031806296-0002	01-B	Tan Fibrous Homogeneous	100	0.0	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
031806296-0003	01-C	Tan Fibrous Homogeneous	100	0.0	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected

Report Date	Report Revision	Revision Comments
03/26/2018	R0	Initial Report

James Hall, Laboratory Manager
or other approved signatory

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Asbestos Analysis of NYS ELAP Method 198.8
PLM Analysis for Asbestos in Bulk Surfacing Materials Containing Vermiculite

Bench Sheet

EMSL Sample ID 031806296-0001 **Crucible ID:**

	Analyst	Date
Gravimetric Prep	JC	3/23/2018
Chrysotile Analysis	JW	3/25/2018
Centrifugation Date	DL	3/25/2018
Amphibole Analysis	YC	3/26/2018

Stereoscopic			
Color	Tan	**Stereoscopic % Asbestos**	
Texture	Fibrous		
Homogeneity	Homogeneous	**Vermiculite Detected**	**Yes**

Initial Weights*	
Weight of Crucible	1.8529
Weight of Crucible and Sub Sample	5.2357
Weight of Sub-Sample	3.3828
Ashing	
Weight of Crucible & Ash	4.5968
Weight of Ash	2.7439
Weight Loss During Ashing	0.6389
Weight Percent Organic and Water	18.8867
Acid Treatment/ Flotation	
Weight of Dish for Floats	8.5986
Weight of Dish & Floats	8.8407
Weight of Floats	0.2421
Weight Percent Floats	7.1568
Weight of Dish & Filter for Residue	8.4281
Weight of Dish & Filter & Residue	9.1439
Weight of Residue	0.7158
Weight Loss During Acid/Flotation Treatment	1.7860
Weight Percent Acid-Soluble/Float Materials	52.7965
Weight Percent Residue	21.1600

Non-Asbestos Fiber	Optical Property	Visual %	Calc %
NONE			0
			0

Chrysotile Identification Optical Properties Temperature (C°) 27.4

⊥ RI	IIRI	Morphology	Sign	Pleochorism	Birefringence	Fiber Color	Extinction
							1
							1
							1
							1

Amphibole Identification Optical Properties Temperature (C°) 20.2

⊥ RI	IIRI	Morphology	Sign	Pleochorism	Birefringence	Fiber Color	Extinction

PLM Examination of Residue (Chrysotile)	Analyzed	PTCT	Chrysotile	Non-Empty	PTCT:	Chrysotile	Non-Empty	Trace Detected?
Number of Occupied Points	400	Slide 1:	0	50	Slide 5:	0	50	☐ None
Number of Chrysotile Points	0	Slide 2:	0	50	Slide 6:	0	50	*Check box if yes*
Percent Chrysotile by PTCT	0.00	Slide 3:	0	50	Slide 7:	0	50	
(if greater than 1% no further analysis needed)	0.0000	Slide 4:	0	50	Slide 8:	0	50	

Heavy Liquid Centrifugation	
Weight of Dish & Filter & Balance of Residue (Post Chrysotile Analysis)	9.0927
Weight of Balance of Residue	0.6646
Weight of Dish & Filter for Centrifugate	8.3742
Weight of Dish & Filter & Centrifugate	8.4206
Weight of Centrifugate	0.0464
Weight Percent Centrifiugate	1.4773

PLM Examination of Centrifugate (Amphibole)	Analyzed	PTCT	Amphibole	Non-Empty	PTCT	Amphibole	Non-Empty	Trace Detected?
Number of Occupied Points	400	Slide 1:	0	50	Slide 5:	0	50	☐ None
Number of Amphibole Points	0	Slide 2:	0	50	Slide 6:	0	50	*Check box if yes*
Percent Amphibole by PTCT	0.00	Slide 3:	0	50	Slide 7:	0	50	
Percent Amphibole in Sample	0.0000	Slide 4:	0	50	Slide 8:	0	50	

Percent of Total Asbestos in Sample	**0.0000**

** All Weights in grams*

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Asbestos Analysis of NYS ELAP Method 198.8
PLM Analysis for Asbestos in Bulk Surfacing Materials Containing Vermiculite

Bench Sheet

EMSL Sample ID 031806296-0002 **Crucible ID:**

	Analyst	Date
Gravimetric Prep	JC	3/23/2018
Chrysotile Analysis	JW	3/25/2018
Centrifugation Date	DL	3/25/2018
Amphibole Analysis	YC	3/26/2018

Stereoscopic			
Color	Tan	**Stereoscopic % Asbestos**	
Texture	Fibrous		
Homogeneity	Homogeneous	**Vermiculite Detected**	**Yes**

Initial Weights*	
Weight of Crucible	1.8739
Weight of Crucible and Sub Sample	5.2370
Weight of Sub-Sample	3.3631
Ashing	
Weight of Crucible & Ash	4.6226
Weight of Ash	2.7487
Weight Loss During Ashing	0.6144
Weight Percent Organic and Water	18.2689
Acid Treatment/ Flotation	
Weight of Dish for Floats	8.4161
Weight of Dish & Floats	8.5331
Weight of Floats	0.1170
Weight Percent Floats	3.4789
Weight of Dish & Filter for Residue	8.6843
Weight of Dish & Filter & Residue	9.5405
Weight of Residue	0.8562
Weight Loss During Acid/Flotation Treatment	1.7755
Weight Percent Acid-Soluble/Float Materials	52.7936
Weight Percent Residue	25.4587

Non-Asbestos Fiber	Optical Property	Visual %	Calc %
NONE			0
			0

Chrysotile Identification Optical Properties — Temperature (C°): 27.3

⊥ RI	IIRI	Morphology	Sign	Pleochorism	Birefringence	Fiber Color	Extinction
							1
							1
							1
							1

Amphibole Identification Optical Properties — Temperature (C°): 20.2

⊥ RI	IIRI	Morphology	Sign	Pleochorism	Birefringence	Fiber Color	Extinction

PLM Examination of Residue (Chrysotile)	Analyzed	PTCT	Chrysotile	Non-Empty	PTCT:	Chrysotile	Non-Empty	Trace Detected?
Number of Occupied Points	400	Slide 1:	0	50	Slide 5:	0	50	☐ None
Number of Chrysotile Points	0	Slide 2:	0	50	Slide 6:	0	50	*Check box if yes*
Percent Chrysotile by PTCT	0.00	Slide 3:	0	50	Slide 7:	0	50	
(if greater than 1% no further analysis needed)	0.0000	Slide 4:	0	50	Slide 8:	0	50	

Heavy Liquid Centrifugation	
Weight of Dish & Filter & Balance of Residue (Post Chrysotile Analysis)	9.4189
Weight of Balance of Residue	0.7346
Weight of Dish & Filter for Centrifugate	8.4544
Weight of Dish & Filter & Centrifugate	8.5112
Weight of Centrifugate	0.0568
Weight Percent Centrifiugate	1.9685

PLM Examination of Centrifugate (Amphibole)	Analyzed	PTCT	Amphibole	Non-Empty	PTCT	Amphibole	Non-Empty	Trace Detected?
Number of Occupied Points	400	Slide 1:	0	50	Slide 5:	0	50	☐ None
Number of Amphibole Points	0	Slide 2:	0	50	Slide 6:	0	50	*Check box if yes*
Percent Amphibole by PTCT	0.00	Slide 3:	0	50	Slide 7:	0	50	
Percent Amphibole in Sample	0.0000	Slide 4:	0	50	Slide 8:	0	50	

Percent of Total Asbestos in Sample	**0.0000**

** All Weights in grams*

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Asbestos Analysis of NYS ELAP Method 198.8
PLM Analysis for Asbestos in Bulk Surfacing Materials Containing Vermiculite

Bench Sheet

EMSL Sample ID 031806296-0003 **Crucible ID:**

	Analyst	Date
Gravimetric Prep	JC	3/23/2018
Chrysotile Analysis	JW	3/25/2018
Centrifugation Date	DL	3/25/2018
Amphibole Analysis	YC	3/26/2018

Stereoscopic			
Color	Tan	**Stereoscopic % Asbestos**	
Texture	Fibrous		
Homogeneity	Homogeneous	**Vermiculite Detected**	**Yes**

Initial Weights*	
Weight of Crucible	1.8897
Weight of Crucible and Sub Sample	5.1992
Weight of Sub-Sample	3.3095
Ashing	
Weight of Crucible & Ash	4.5952
Weight of Ash	2.7055
Weight Loss During Ashing	0.6040
Weight Percent Organic and Water	18.2505
Acid Treatment/ Flotation	
Weight of Dish for Floats	8.6505
Weight of Dish & Floats	8.9334
Weight of Floats	0.2829
Weight Percent Floats	8.5481
Weight of Dish & Filter for Residue	8.7008
Weight of Dish & Filter & Residue	9.4015
Weight of Residue	0.7007
Weight Loss During Acid/Flotation Treatment	1.7219
Weight Percent Acid-Soluble/Float Materials	52.0290
Weight Percent Residue	21.1724

Non-Asbestos Fiber	Optical Property	Visual %	Calc %
NONE			0
			0

Chrysotile Identification Optical Properties Temperature (C°) 27.2

⊥ RI	IIRI	Morphology	Sign	Pleochorism	Birefringence	Fiber Color	Extinction
							1
							1
							1
							1

Amphibole Identification Optical Properties Temperature (C°) 20.2

⊥ RI	IIRI	Morphology	Sign	Pleochorism	Birefringence	Fiber Color	Extinction

PLM Examination of Residue (Chrysotile)	Analyzed	PTCT	Chrysotile	Non-Empty	PTCT:	Chrysotile	Non-Empty	Trace Detected?
Number of Occupied Points	400	Slide 1:	0	50	Slide 5:	0	50	☐ None
Number of Chrysotile Points	0	Slide 2:	0	50	Slide 6:	0	50	*Check box if yes*
Percent Chrysotile by PTCT	0.00	Slide 3:	0	50	Slide 7:	0	50	
(if greater than 1% no further analysis needed)	0.0000	Slide 4:	0	50	Slide 8:	0	50	

Heavy Liquid Centrifugation	
Weight of Dish & Filter & Balance of Residue (Post Chrysotile Analysis)	9.3149
Weight of Balance of Residue	0.6141
Weight of Dish & Filter for Centrifugate	8.6346
Weight of Dish & Filter & Centrifugate	8.6741
Weight of Centrifugate	0.0395
Weight Percent Centrifiugate	1.3618

PLM Examination of Centrifugate (Amphibole)	Analyzed	PTCT	Amphibole	Non-Empty	PTCT	Amphibole	Non-Empty	Trace Detected?
Number of Occupied Points	400	Slide 1:	0	50	Slide 5:	0	50	☐ None
Number of Amphibole Points	0	Slide 2:	0	50	Slide 6:	0	50	*Check box if yes*
Percent Amphibole by PTCT	0.00	Slide 3:	0	50	Slide 7:	0	50	
Percent Amphibole in Sample	0.0000	Slide 4:	0	50	Slide 8:	0	50	

Percent of Total Asbestos in Sample	**0.0000**

** All Weights in grams*

EMSL Analytical, Inc. second asbestos report Pg 5 of 5
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		Date Collected:	**03/20/2018**
Project:	**STLLX18001/ 220 FIFTH AVENUE/ NEW YORK/ BASEMENT -**	Date Received	**03/30/2018**
		Date Analyzed:	**03/26/2018**

Report Date	Report Revision	Revision Comments
03/26/2018	R0	Initial Report

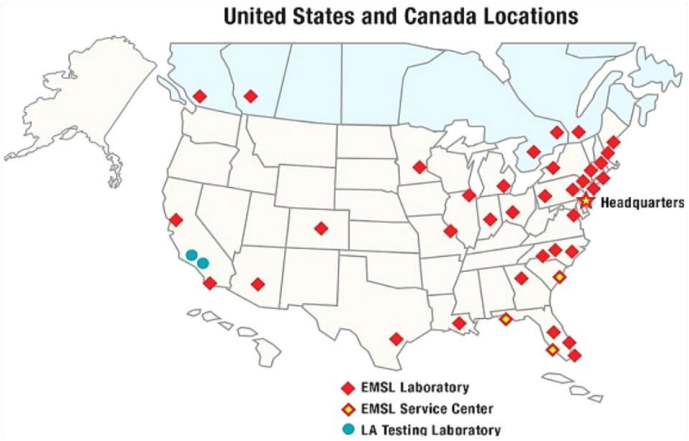
James Hall, Laboratory Manager

or other approved signatory

Additional Comments: NYS ELAP# 11506

About us

EMSL Analytical, Inc. offers a full line of analytical solutions for over 30 years across North America. For more information about our nationally accredited locations, vast line of testing services, and our food safety solutions please visit www.EMSL.com or call (800) 220-3675.



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